REMARKS/ARGUMENTS

Page 20 of the specification has been amended to include the proper serial, publication, and issued patent numbers of the cited patent applications.

The first line of the abstract has been amended to be more precise and conform to page 31 lines 5-6 of the specification as originally filed.

This application was originally filed with formal drawings, and the formal drawings are seen in the application as published under publication no. 2005-0065985.

In reply to the rejection of claims 20-32 under 35 U.S.C., 112, second paragraph, and the rejection of claims 1-32 under 35 U.S.C. 101 as directed to non-statutory subject matter, the claims have been amended to point out that the claims are clearly directed and limited to a technological art, environment, or machine, namely, "computer data storage" (applicants' original specification, page 2, line 3) for example as shown in FIG. 1 and described in applicants' specification on page 9 line 19 to page 10 line 20. See especially page 10 lines 1-2 ("Small Computer System Interface (SCSI) driver 27, and physical storage 28 linked to the logical volume layer 26 through the SCSI driver 27. "). All of the independent method claims have been amended to recite method steps upon the "computer data storage" and to point out that the method is a "computer-implemented" of operation upon the various forms of data in this computer data storage. All of the independent apparatus claims have been amended in a similar

fashion to point out that the "file server" comprises the "computer data storage," and the "file server" is programmed to operate upon the various forms of data in this computer data storage.

As amended, the claims cannot be reasonably construed so broadly as to read upon the human brain, data structure per se, abstract ideas, or even stacks of paper documents in filing cabinets. Instead, the claims as amended are directed to a kind of programmable data processing apparatus comprising computer data storage, namely a file server, and methods of data processing performed by such an apparatus upon data in this computer data storage. Thus, the claims define statutory subject matter. See, for example, In re Toma, 575 F.2d 872, 877, 197 U.S.P.Q. 852, 857 (C.C.P.A. 1978); In re Bernhart, 417 F.2d 1395, 1400, 163 U.S.P.Q. 611, 616 (C.C.P.A. 1969), In re Knowlton, 481 F.2d 1357, 178 U.S.P.Q. 486 (C.C.P.A. 1973).

The "real-world" value provided by the applicants' invention is described generally as storage backup, transaction processing, software debugging, improved data availability and effectiveness of recovery procedures for recovering from a system crash, and savings in backup processing time and in backup storage capacity. (Applicants' specification, page 2 lines 12-21, and page 10 lines 6-10 and 17-20). The specific advantage provided by the applicants' invention, as defined by the amended claims, is described in applicants' specification on page 20 line 19 to page 21 line 4, as follows:

> For some applications it is desirable to provide a non-disruptive and virtually instantaneous mechanism for making a read-write snapshot. For example, during the recovery process, it is often desirable to create a temporary read-write copy of a read-only snapshot prior to restoring the original read-write

> file after a system crash. Recovery can be attempted upon the temporary read-write file, and then application programs can be tested upon the temporary read-write copy. If a recovery program or an application program should crash when using the temporary read-write copy, then the temporary read-write copy can be deleted, and the recovery process can be restarted using another temporary read-write copy of another read-only snapshot.

It is respectfully submitted that such "a non-disruptive and virtually instantaneous mechanism for making a read-write snapshot" is a sufficiently practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101, in view of the controlling legal precedent. See, for example, In re Toma, 575 F.2d 872, 877, 197 U.S.P.Q. 852, 857 (C.C.P.A. 1978) (The method for enabling a computer to translate natural languages is in the technological arts, i.e., it is a method of operating a machine. The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter is statutory, not on whether the product of the claimed subject matter is statutory, not on whether the prior art which the claimed subject matter purports to is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine.).

In paragraph 9 on page 11 of the Official Action, claims 16-19 were provisionally rejected under the judicially created doctrine of double patenting over claims 1-28 of copending Application No. 10/668,546. Applicants respectfully traverse and respectfully request

reconsideration in view of the following remarks. Claims 16-19 are so-called "means plus function" claim, which under 35 U.S.C. 112, paragraph 6, and during examination, are to be limited to the corresponding structure, material, and acts described in applicants' specification and equivalents thereof. In re Bond, 910 F.2d 831; 1990, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). It is respectfully submitted that the claimed means for creating and maintaining the read-write snapshot copy, and the means for refreshing the read-write snapshot copy, as limited to the corresponding structure, material acts and structure shown and described in the present patent application Ser. 10/668,783, and equivalents thereof, are not shown, described, or suggested by corresponding structure, material, and acts shown, described, and claimed in co-pending Application No. 10/668,546. The corresponding structure, material, and acts shown and described in the present application involve copying and mapping logical blocks of volumes of computer data storage. In contrast, co-pending Application No. 10/668,546 shows copying file system data blocks and linking the file system data blocks to file system inodes, and claims 1-28 of co-pending Application No. 10/668,546 in particular recite operations involving inodes and file blocks including data blocks and indirect blocks. Note also MPEP 804 pages 800-22 to 800-13 (Aug. 2001):

> When considering whether the invention defined in a claim of an application is an obvious variation of the invention defined in the claim of a patent, the disclosure of the patent may not be used as prior art. This does not mean that one is precluded from all use of the patent disclosure.

The specification can always be used as a dictionary to learn the meaning of a term in the patent claim. In re Boylan, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in the application defines an obvious variation of an invention claimed in the patent. In re Vogel, 422 F.2d 438, 441-42, 164 USPQ 619, 622 (CCPA 1970). The court in Vogel recognized "that it is most difficult, if not meaningless, to try to say what is or is not an obvious variation of a claim," but that one can judge whether or not the invention claimed in an application is an obvious variation of an embodiment disclosed in the patent which provides support for the patent claim. According to the court, one must first "determine how much of the patent disclosure pertains to the invention claimed in the patent" because only "[t]his portion of the specification supports the patent claims and may be considered." The court pointed out that "this use of the disclosure is not in contravention of the cases forbid-ding its use as prior art, nor is it applying the patent as a reference under 35 U.S.C. 103, since only the disclosure of the invention claimed in the patent may be examined."

In paragraph 11 on page 12 of the Official Action, claims 16-19 were rejected under 35 U.S.C. 102(b) as being anticipated by Armangau U.S. Patent 6,434,681. Applicants respectfully traverse and request reconsideration in view of the following remarks. "For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference." Diversitech Corp. v. Century Steps, Inc., 7 U.S.P.Q.2d 1315, 1317 (Fed. Cir. 1988), quoted in In re Bond, 910 F.2d 831; 1990, 15 U.S.P.Q.2d 1566,

1567 (Fed. Cir. 1990) (vacating and remanding Board holding of anticipation; the elements must be arranged in the reference as in the claim under review, although this is not an ipsis verbis test). The applicants' claims 16-19 are so-called "means plus function" claim, which under 35 U.S.C. 112, paragraph 6, and during examination, are to be limited to the corresponding structure, material, and acts described in applicants' specification and equivalents thereof. In re Bond, 910 F.2d 831; 1990, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). The applicants' claimed means for creating and maintaining the read-write snapshot copy, and the means for refreshing the read-write snapshot copy, as limited to the corresponding structure, material, and acts shown and described in the present patent application Ser. 10/668,783, are not the same as what is shown, described, or suggested in Armangau U.S. Patent 6,434,681. For example, in the present application Ser. 10/668,783, the creation and refreshing of the read-write snapshot copy is done in such a way as to permit concurrent read-write access to the created or refreshed read-write snapshot copy. This advantage was expressly disclosed in applicants' specification on page 20 lines 19-20 as: "For some applications it is desirable to provide a non-disruptive and virtually instantaneous mechanism for making a read-write snapshot." Then means for obtaining this desired result were shown and described with reference to FIGS. 12-24 of the present application Ser. 10/668,783. In contrast, in Armangau U.S. Patent 6,434,681, a read-write snapshot copy would be created or refreshed only by copying the read-only snapshot copy of Armangau U.S. patent 6,434,681 in a conventional fashion, for example for backup. It is respectfully submitted that there is no description in Armangau U.S. Patent 6,434,681 that such copying would or could be done in such a way as to permit concurrent read-write access to the read-write snapshot copy.

In view of the above, reconsideration is respectfully requested, and early allowance is earnestly solicited.

Respectfully submitted,

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